

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of)
) Atty. Docket No. 8667-60
 HERZOG ET AL.)
)
 Appl. No. NEW Continuation Application) Examiner E. Harris
 Based on co-pending)
 Appl. No. 09/693,045) Art Unit 3634
)
 Filed 9 October 2001)
)
 For: "Storage Rack System And Locking Latch Therefor"

AMENDMENT UNDER 37 CFR 1.115

Assistant Commissioner for Patents
Box Patent Application
Washington, D.C. 20231

SIR:

Kindly enter the following amendment prior to examination of the referenced application.

In the Claims:

Cancel Claims 1-14.

15. (Amended) A latch assembly useable for locking a beam member connected to a post with a headed lug, comprising:

a beam flange having first and second opposite sides and a locking pin opening;
a resilient arm having a portion thereof coupled to the first side of the beam flange;

a locking pin extending from the resilient arm, the locking pin protruding through the locking pin opening,

the resilient arm biasing the locking pin through the locking pin opening of the beam flange;

a locking flange extending from the locking pin, a portion of the locking flange disposed alongside the second side of the beam flange.

16. (Amended) The latch assembly of Claim 15, the locking flange is a single lobe extending generally radially from a side portion of the locking pin.

17. (Amended) The latch assembly of Claim 16, the beam flange having a tooth recess on the second side thereof, a tooth protrudes from the locking flange toward the resilient arm, the tooth extends toward the locking pin and is engageable with the tooth recess.

18. (Amended) The latch assembly of Claim 15, the locking flange comprises first and second lobes extending from generally opposing sides of the locking pin.

19. (Amended) The latch assembly of Claim 15, the resilient arm having first and second legs protruding from an end portion thereof, each leg has a wing member extending outwardly away from the wing member of the other leg and generally parallel to the resilient arm.

20. (Amended) The latch assembly of Claim 15 further comprising a plurality of protrusions extending from the same side of the resilient arm as the locking pin.

34. (New) The latch assembly of Claim 15, a flange recess on the second side of the beam flange, the locking flange extending generally radially from the end portion of the locking pin and disposed adjacent the flange recess, whereby the locking flange is engageable with the flange recess to limit flexing of the resilient arm.

35. (New) The latch assembly of Claim 34, a tooth recess in the flange recess, the locking flange angled toward the resilient arm, a tooth protruding from the locking flange toward the resilient arm, the tooth extends toward the locking pin and is engageable with the tooth recess.

36. (New) The latch assembly of Claim 35, the beam flange having first and second openings disposed symmetrically thereon, one of the first and second openings is the locking pin opening, the flange recess is disposed between the first and second openings.

37. (New) The latch assembly of Claim 36, each opening of the beam flange has an aperture portion located near the flange recess and a slot portion extending away from the flange recess, each slot portion is formed in a slot recess on the second side of the beam flange.

38. (New) The latch assembly of Claim 35, the locking flange comprises first and second lobes extending from generally opposing sides of the locking pin.

39. (New) The latch assembly of Claim 38, the beam flange having first and second openings, each opening of the beam flange has an aperture portion and a slot portion, the slot portion is formed in a slot recess on the second side of the beam flange, the slot portion of one opening adjacent the aperture portion of the other opening, one of the openings is the locking pin opening and the slot recess thereof is the flange recess.

40. (New) A flex-limited latching locking latch, comprising:
a flange having an opening through the flange;
a flexible arm having a portion coupled to a side of the flange;
a locking portion extending from the resilient arm, the locking portion
5 protruding through the flange opening; and
a flex limiting member extending from the locking portion along a side of the flange opposite the side thereof to which the flexible arm is coupled,
whereby the flex limiting member is engageable with the side of the flange along which it extends to limit flexing of the flexible arm away from the side of the flange to
10 which the flexible arm is coupled.

41. (New) The latch of Claim 40, a recess disposed on the side of the flange opposite the side thereof to which the flexible arm is coupled, a portion of the flex limiting member disposable in the recess when the flexible arm is flexed away from the side of the flange to which the flexible arm is coupled.

42. (New) The latch of Claim 41, the flex limiting member not protruding substantially beyond the side of the flange along which the flex limiting member extends when the flex limiting member is disposed in the recess.

43. (New) The latch of Claim 40, the locking portion is a generally cylindrical-shape member extending from the flexible arm, the flex limiting member is a deformed portion of the cylindrical-shape member.

44. (New) The latch of Claim 43, a recess disposed on the side of the flange opposite the side thereof to which the resilient arm is coupled, the locking pin and the flex limiting member not protruding beyond the side of the beam flange opposite the side thereof to which the flexible arm is coupled.

45. (New) A flex-limited latching locking latch, comprising:
a flange having an opening through the flange;
a flexible arm having a portion coupled to a side of the flange;
a locking portion extending from the resilient arm, the locking portion protruding through the flange opening; and

a flex limiting member extending from the locking portion along a side of the flange opposite the side thereof to which the flexible arm is coupled;

a recess disposed on the side of the flange opposite the side thereof to which the flexible arm is coupled,

10 a portion of the flex limiting member disposable in the recess when the flexible arm is flexed away from the side of the flange to which the flexible arm is coupled.

46. (New) The latch of Claim 45, the flex limiting member not protruding substantially beyond the side of the flange along which the flex limiting member extends when the flex limiting member is disposed in the recess.

47. (New) The latch of Claim 46, the locking portion is a generally cylindrical-shape member extending from the flexible arm, the flex limiting member is a deformed portion of the cylindrical-shape member, the locking portion not extending substantially beyond the side of the flange along which the flex limiting member extends when the flex limiting member is disposed in the recess.

REMARKS

The specification has been amended grammatically and idiomatically consistent with the amendments made thereto in the parent applications, including identification of the parent applications referenced from which priority is claimed. A clean-copy of the amended specification is enclosed. Marked-up amended portions of the specification are appended hereto for ready consideration by the Examiner.

Claims 1-14 have been cancelled.

Claims 15-20, and any amendments made thereto herein, correspond to Claims 15-20 pending in the parent application and withdrawn in Applicant's Response under 37 CFR 1.111 filed on 31 August 2001 in the parent application.

New Claims 34-39 correspond to Claims 21-26 pending in the parent application and withdrawn in Applicant's Response under 37 CFR 1.111 filed on 31 August 2001 in the parent application.

New Claims 40 - 47 have been added for consideration by the Examiner.

Claims 15-20 and 34-47 are pending

ALLOWABILITY OF CLAIMED INVENTIONS

In the parent Application No. 09/693,045, Claims 15-26 (corresponding to pending claims 15-20 and 34-30) were rejected under 35 USC 102 as being anticipated by US 5025937 (King) in the Official action of 22 June 2001. Claims 15-20 and 34-39 of the instant continuation application are thus subject to the same rejection based on King.

The invention of Claim 15 covers a locking latch of the exemplary type illustrated in FIG. 1 comprising a locking flange 130 that engages the back side 57 of the beam

flange 50 to limit withdrawal of the locking pin 120 from the opening, thereby preventing over-flexing of the resilient arm 110. Accordingly, Claim 15 recites "... a portion of the locking flange disposed alongside the second side of the beam flange."

In King, in FIG. 1, a hook member 60 is fastened to a beam plate 20 by a hold down member 40. The hook member 60 includes flexible legs 62, 64 and hooks 76 that extend through an aperture 82 in the plate. King, col. 3, lines 14-16 and FIG. 3.

Unlike the invention of Claim 15, the no portion of the hooks 76 in King are "... disposed alongside the second side of the beam flange ...", as recited in Claim 15, to prevent unlimited flexing of the flexible arms. More particularly, in King the hooks 76 may be moved relative to the plate 20 (in and out of the aperture 82 by flexing the resilient legs 62 & 64) and that the hook member may be removed in the event that it is bent. King, col. 3, lines 17-25. In King, the hooks 76 may also be withdrawn from the apertures 24 in the post to which the plate is fastened by pins. King, col. 3, lines 39-47. In FIG. 6 of King, the hooks 76 overlap a portion of the post, but not the beam plate 20 to which the hook member is fastened.

Claim 15 and dependent Claims 16-20 and 34-39 are thus patentably distinguished over King. The Examiner has conceded that Claims 16-20 and 34-39 are allowable over King.

New Claims 40-47 are also allowable.

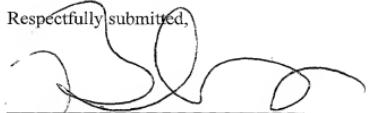
(Continued on the following Page.)

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New Continuation Application

In view of the remarks above, it is submitted that all pending claims of the present application are in condition for allowance. Kindly withdraw any rejections and objections thereto and allow the claims of the present application to issue as a United States Patent without delay.

Respectfully submitted,



ROLAND K. BOWLER II
REG. NO. 33,477

TELEPHONE: 847-229-9966
FACSIMILE: 847-229-9967

ROLAND K. BOWLER II
ATTORNEY AT LAW
50 PICARDY
WHEELING, ILLINOIS 60090-2107

MARKED-UP CLAIMS AMENDMENTS

In the Specification:

The following paragraph was inserted on Page 1, before the Background:

CROSS-REFERENCE TO RELATED APPLICATIONS

The present application is a continuation of commonly assigned and co-pending U.S. Application No. 09/693,045 filed on 20 October 2000, now U.S. Patent No. _____, which is a continuation of U.S. Application No. 09/300,923 filed on 28 April 1999, also entitled "Storage Rack System And Locking Latch Therefor", now abandoned, from which priority under 35 U.S.C. §120 is hereby claimed.

Page 24, line 24 - page 5, line 4 was amended as follows:

FIG. 2 illustrates the post 20 having the plurality of openings 22 arranged generally in a row thereon for accommodating one or more headed lugs protruding from the beam member 30, whereby the beam member may be adjustably connected to the post as is known. [The] In FIG. 1, the post openings 22 have generally an enlarged upper portion 21 that permits passage of the enlarged head of the lug, and a smaller lower portion 23 that supports the lug but prevents passage of the enlarged head. In exemplary embodiment of FIG. 2, the post openings 22 are generally slanted keyhole type openings, but the post openings 22 may

have other alternative shapes, for example the quad-hole shapes disclosed in the referenced U.S. Patent No. 3,905,712, among other shapes suitable for connecting lugs thereto, as is known.

Page 7, lines 1-23 were amended as follows:

The resilient arm 110 generally biases the locking pin 120 to protrude through the locking pin opening 56 of the beam flange 50 and at least partially into an opening 22 of the post 20 aligned at least partially with the locking pin opening 56 when the beam member 30 is connected to the post 20. Thus assembled, the locking pin 120 is engageable with [an] a portion or surface 26 of the upper portion [26] 21 of the post opening 22 into which it protrudes to prevent the beam member 30 from being raised or lifted relative to the post, as is otherwise required to align and withdraw the enlarged head 42 of the lug 40 through the enlarged upper portion 21 of the post opening 22. The locking pin 120 thereby locks the beam member 30 to the post 20. FIG. 1 also illustrates partially and in phantom lines the resilient arm 110 flexible away from the outer side 54 of the beam flange 50 to a limited extent for assembly and withdrawal of the locking pin 120 relative to the locking pin opening 56 of the beam [member] flange 50, as discussed below.

In FIG. 1, a locking flange 130 is coupled to the second end portion 124 of the locking pin 120 and extends generally radially therefrom. When the beam member 30 is connected to the post 20, as discussed above, the locking flange 130 extends generally adjacent the inner side 52 of the beam flange 50 and is engageable therewith to inhibit withdrawal of the locking pin 120 from the locking pin opening 56, thereby securing the locking pin 120 in the post opening 22 aligned with the locking pin opening 56 of the beam flange 50. The locking flange 130 also limits flexing of the resilient arm 110 thereby preventing over-flexing thereof to an extent that may cause damage thereto, [and prevent the bias] Damage to the

resilient arm from over-flexing thereof may prevent proper biasing of the locking pin 120 into the locking pin opening 56 of the beam flange 50, as is problematic with prior art latches.

Page 10, lines 5-11 were amended as follows:

FIG. 1 also illustrates the locking flange 130 extending, or angled, slightly toward the resilient arm 110 and thus toward inner side 52 of the beam flange 50, thereby improving engagement of the tooth 132 with the tooth recess 58. The extent, if any, to which the locking flange 130 is angled toward the resilient arm 110 may depend generally on the thickness of the beam flange [30] and the post 20, the size of the tooth 132, the axial length of the locking pin 120 and the alignment thereof, and may be determined by those of ordinary skill in the art without undue experimentation in view of the disclosure herein.

Page 12, lines 6-13 were amended as follows:

In FIG. 8, the beam flange 51 has first and second openings 151 and 153 therethrough. Each opening 151 and 153 has an aperture portion 154 and a slot portion 156 formed in a slot recess 158 on the inner side [52] of the beam flange 51, as discussed generally above. Unlike the embodiment of FIG. 3, however, the openings 151 and 153 in FIG. 8 are disposed asymmetrically on the beam flange 51. More particularly, the slot portion 156 of the first opening 151 is adjacent the aperture portion 154 of the other opening 153. The alternative beam flange 51 is thus asymmetric, and separate right and left handed configurations thereof are required for mounting on opposing end portions of the beam member.

Page 12, lines 18 - page 13, line 1 was amended as follows:

In the latch 102 of FIG. 7, the locking flange comprises first and second lobes 135 and 136 extending generally radially from opposing side portions of the locking pin 120. In FIG. 6, during assembly of the beam member 30 with the post 20, the resilient arm 110 is flexed initially away from the outer side 54 of the beam flange 51 [50], as discussed above. The locking flange 130 and more particularly the first and second lobes 135 and 136 thereof are thus disposed in the slot portion 158 of the opening 151 through which the locking pin 120 is disposed when the resilient arm 110 is flexed outwardly to permit insertion of the headed lugs into corresponding post openings. As the beam member 30 is subsequently lowered relative to the post 20 to seat the headed lugs in the corresponding post openings, the locking pin 120 is positioned eventually in alignment with another post opening 22 whereupon the resilient arm 110 biases the locking pin 120 into the post opening 22 aligned therewith to lockingly connect the beam member 30 to the post 20, as discussed above.

Page 13, lines 2-8 were amended as follows:

To fasten the latch 102 of FIGS. 6 and 7 to the beam flange 51 of FIG. 8, the legs 140 are disposed into the aperture portion 154 of the second opening 153 from the outer side 54 of the beam flange 51 [member 50], as discussed generally above. And as the legs 140 of the latch 102 are slidably disposed along the slot portion 156 of the opening 153, the locking pin 120 and flange 130 are eventually positioned to pass through the aperture portion 154 of the opening 151 under the bias of the resilient arm 110. Thus assembled, the beam member 30 and latch 102 may be lockingly connected to a post 20, as discussed above.

In the Claims:

15. (Amended) A latch assembly useable for locking a beam member connected to a post with a headed lug, [the beam member having a beam flange with a locking pin opening aligned at least partially with an opening of the post when the beam member is connected thereto, the latch] comprising:

a beam flange having first and second opposite sides and a locking pin opening;

a resilient arm having a [first and second end portions, the first end] portion [of the resilient arm coupleable] thereof coupled to the first side of the beam flange;

a locking pin [having an end portion] extending from the [second end portion of the] resilient arm, the locking pin protruding through the locking pin opening,

the resilient arm biasing the locking pin [to protrude] through the locking pin opening of the beam flange [when the resilient arm is coupled thereto so that the locking pin protrudes at least partially into the opening of the post aligned with the locking pin opening of the beam flange when the beam member is connected to the post];

a locking flange extending [generally radially] from the [end portion of the] locking pin, a portion of the locking flange disposed alongside the second [engageable with an inner] side of the beam flange [to inhibit withdrawal of the locking pin from the locking pin opening].

16. (Amended) The latch assembly of Claim 15, the locking flange is a single lobe extending generally radially from a side portion of the locking pin.

17. (Amended) The latch assembly of Claim 16, the beam flange having a tooth recess on the second side thereof, [the locking flange is angled toward the resilient arm,] a tooth protrudes from the locking flange toward the resilient arm, the tooth extends toward the locking pin and is engageable with the tooth recess.

18. (Amended) The latch assembly of Claim 15, the locking flange comprises first and second lobes extending from generally opposing sides of the locking pin.

19. (Amended) The latch assembly of Claim 15, the resilient arm having first and second legs protruding from an [the first] end portion thereof, each leg has a wing member extending outwardly away from the wing member of the other leg and generally parallel to the resilient arm.

20. (Amended) The latch assembly of Claim 15 further comprising a plurality of protrusions extending from the same side [thereof] of the resilient arm as the locking pin.